

IN THE CLAIMS

Listing of Claims:

Claim 1. (Currently Amended) A head arm assembly comprising:

a head slider having at least one head element;

an arm member for supporting the head slider at one end section;

an actuator, mounted to the other end section of the arm member, for rotationally moving the arm member in a direction substantially parallel with a recording medium surface around [[a]] an axis for horizontal rotation [[axis]] of the arm member; and

a load generation means for generating a load for energizing said head slider in a direction to the recording medium surface by rotationally moving said arm member in a direction substantially orthogonal to said recording medium surface around [[a]] an axis for vertical rotation [[axis]],

the position of the center of gravity of the head arm assembly being located at a different position from said axis for vertical rotation [[axis]] on a center axis of said arm member.

Claim 2. (Currently Amended) The head arm assembly as claimed in claim 1, wherein a force applied to said head slider by a rotational moment occurring due to an applied impact acceleration and a displacement of said position of the center of gravity is set to be not more than ~~a negative pressure or positive pressure~~ occurring to an air bearing surface of said head slider due to rotation of said recording medium.

Claim 3. (Currently Amended) The head arm assembly as claimed in claim 1, wherein said position of the center of gravity is located at a position between said actuator and said axis for vertical rotation [[axis]].

Claim 4. (Currently Amended) The head arm assembly as claimed in claim 3, wherein said position of the center of gravity is a position which substantially satisfies $L_2 = M_1 \times L_1/M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation $[[axis]]$, L_2 is a distance between said axis for vertical rotation $[[axis]]$ and said position of the center of gravity.

Claim 5. (Currently Amended) The head arm assembly as claimed in claim 3, wherein when said position of the center of gravity is at a position which substantially satisfies $L_2 > M_1 \times L_1/M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation $[[axis]]$, L_2 is a distance between said axis for vertical rotation $[[axis]]$ and said position of the center of gravity, an air bearing surface of said head slider is set so that positive pressure occurring to the air bearing surface due to rotation of said recording medium is not less than a product of an inertial force obtained from a mass of a part from said position of center of gravity of the head arm assembly to said head slider and an applied impact acceleration.

Claim 6. (Currently Amended) The head arm assembly as claimed in claim 3, wherein when said position of the center of gravity is at a position which substantially satisfies $L_2 < M_1 \times L_1/M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation $[[axis]]$, L_2 is a distance between said axis for vertical rotation $[[axis]]$ and said position of the center of gravity, an air bearing surface of said head

slider is set so that negative pressure occurring to the air bearing surface due to rotation of said recording medium is not less than a product of an inertial force obtained from a mass of a part from said position of center of gravity of the head arm assembly to said head slider and an applied impact acceleration.

Claim 7. (Currently Amended) The head arm assembly as claimed in claim 1, wherein said position of the center of gravity is located at a position between said head slider and said axis for vertical rotation [[axis]].

Claim 8. (Currently Amended) The head arm assembly as claimed in claim 7, wherein when said position of the center of gravity is at a position which substantially satisfies $L_2 < M_1 \times L_1 / M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation [[axis]], L_2 is a distance between said axis for vertical rotation [[axis]] and said position of the center of gravity, an air bearing surface of said head slider is set so that negative pressure occurring to the air bearing surface due to rotation of said recording medium is not less than a product of an inertial force obtained from a mass of a part from said position of center of gravity of the head arm assembly to said head slider and an applied impact acceleration.

Claim 9. (Currently Amended) The head arm assembly as claimed in claim 1, wherein said axis for horizontal rotation [[axis]] is provided at a horizontal rotation bearing part located at a midpoint of said arm member, and said axis for vertical rotation [[axis]] comprises a protuberance provided in the vicinity of the horizontal rotation bearing part.

Claim 10. (Currently Amended) The head arm assembly as claimed in claim 9, wherein said load generation means comprises a leaf spring connected to said horizontal rotation bearing part and to said arm member.

Claim 11. (Original) The head arm assembly as claimed in claim 1, wherein said arm member comprises a support arm having rigidity, and a flexure having elasticity, which is supported at one end section of the support arm and for controlling a flying attitude of said head slider, and the head slider is fixed on the flexure.

Claim 12. (Original) The head arm assembly as claimed in claim 11, wherein said arm member further comprises a load beam having rigidity and including a load protrusion for applying load to said head slider, said flexure being fixed on the load beam.

Claim 13. (Currently Amended) A disk drive device including at least one head arm assembly that comprises:

- a head slider having at least one head element;
- an arm member for supporting the head slider at one end section;
- an actuator, mounted to the other end section of the arm member, for rotationally moving the arm member in a direction substantially parallel with a recording medium surface around [[a]] an axis for horizontal rotation [[axis]] of the arm member; and
- a load generation means for generating a load for energizing said head slider in a direction to the recording medium surface by rotationally moving said arm member in a direction substantially orthogonal to said recording medium surface around [[a]] an axis for vertical rotation [[axis]],

the position of the center of gravity of the head arm assembly being located at a different position from said axis for vertical rotation ~~axis~~ on a center axis of said arm member.

Claim 14. (Original) The disk drive device as claimed in claim 13, wherein a force applied to said head slider by a rotational moment occurring due to an applied impact acceleration and a displacement of said position of the center of gravity is set to be not more than negative pressure or positive pressure occurring to an air bearing surface of said head slider due to rotation of said recording medium.

Claim 15. (Currently Amended) The disk drive device as claimed in claim 13, wherein said position of the center of gravity is located at a position between said actuator and said axis for vertical rotation ~~axis~~.

Claim 16. (Currently Amended) The disk drive device as claimed in claim 15, wherein said position of the center of gravity is a position which substantially satisfies $L_2 = M_1 \times L_1 / M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation ~~axis~~, L_2 is a distance between said axis for vertical rotation ~~axis~~ and said position of the center of gravity.

Claim 17. (Currently Amended) The disk drive device as claimed in claim 15, wherein when said position of the center of gravity is at a position which substantially satisfies $L_2 > M_1 \times L_1 / M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head

slider and said axis for vertical rotation $[[axis]]$, L_2 is a distance between said axis for vertical rotation $[[axis]]$ and said position of the center of gravity, an air bearing surface of said head slider is set so that positive pressure occurring to the air bearing surface due to rotation of said recording medium is not less than a product of an inertial force obtained from a mass of a part from said position of center of gravity of the head arm assembly to said head slider and an applied impact acceleration.

Claim 18. (Currently Amended) The disk drive device as claimed in claim 15, wherein when said position of the center of gravity is at a position which substantially satisfies $L_2 < M_1 \times L_1/M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation $[[axis]]$, L_2 is a distance between said axis for vertical rotation $[[axis]]$ and said position of the center of gravity, an air bearing surface of said head slider is set so that negative pressure occurring to the air bearing surface due to rotation of said recording medium is not less than a product of an inertial force obtained from a mass of a part from said position of center of gravity of the head arm assembly to said head slider and an applied impact acceleration.

Claim 19. (Currently Amended) The disk drive device as claimed in claim 13, wherein said position of the center of gravity is located at a position between said head slider and said axis for vertical rotation $[[axis]]$.

Claim 20. (Currently Amended) The disk drive device as claimed in claim 19, wherein when said position of the center of gravity is at a position which substantially satisfies $L_2 < M_1 \times L_1/M_2$, where M_1 is a mass at a load point to said head slider, M_2 is a mass

at said position of the center of gravity, L_1 is a distance between a load point to said head slider and said axis for vertical rotation $[[axis]]$, L_2 is a distance between said axis for vertical rotation $[[axis]]$ and said position of the center of gravity, an air bearing surface of said head slider is set so that negative pressure occurring to the air bearing surface due to rotation of said recording medium is not less than a product of an inertial force obtained from a mass of a part from said position of center of gravity of the head arm assembly to said head slider and an applied impact acceleration.

Claim 21. (Currently Amended) The disk drive device as claimed in claim 13, wherein said axis for horizontal rotation $[[axis]]$ is provided at a horizontal rotation bearing part located at a midpoint of said arm member, and said axis for vertical rotation $[[axis]]$ comprises a protuberance provided in the vicinity of the horizontal rotation bearing part.

Claim 22. (Currently Amended) The disk drive device as claimed in claim 21, wherein said load generation means comprises a leaf spring connected to said horizontal rotation bearing part and to said arm member.

Claim 23. (Original) The disk drive device as claimed in claim 13, wherein said arm member comprises a support arm having rigidity, and a flexure having elasticity, which is supported at one end section of the support arm and for controlling a flying attitude of said head slider, and the head slider is fixed on the flexure.

Claim 24. (Original) The disk drive device as claimed in claim 23, wherein said arm member further comprises a load beam having rigidity and including a load protrusion for applying load to said head slider, said flexure being fixed on the load beam.